

7061

BEAM POWER TUBE

9-PIN MINIATURE TYPE

For use in mobile communications equipment operating from 6-cell storage-battery systems

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage range	12 to 15	ac or dc volts
Current (Approx.) at 13.5 volts	0.21	amp

Direct Interelectrode Capacitances:°

Grid No.1 to plate	0.7 max.	μμf
Grid No.1 to all other electrodes except plate	8	μμf
Plate to all other electrodes except grid No.1	8.5	μμf

Mechanical:

Operating Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip)	2" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	*See General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JETEC No.E9-1)
Basing Designation for BOTTOM VIEW	9EU

Pin 1 - Grid No.2
Pin 2 - No Connection
Pin 3 - Grid No.1
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Grid No 1
Pin 7 - Cathode, Grid No.3
Pin 8 - Grid No.2
Pin 9 - Plate

AMPLIFIER — Class A₁

Maximum Ratings, *Absolute Values:*

PLATE VOLTAGE	345 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	310 max.	volts
GRID-No.2 INPUT	2 max.	watts
PLATE DISSIPATION	9 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	120 max.	volts
Heater positive with respect to cathode	120 max.	volts

Typical Operation and Characteristics:

Heater Voltage	13.5	volts
Plate Voltage	200	volts
Grid-No.2 Voltage	200	volts
Grid-No.1 (Control-Grid) Voltage	-10	volts

° Without external shield.

7061



7061

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Peak AF Grid-No.1 Voltage	10	volts
Zero-Signal Plate Current	35.5	ma
Max.-Signal Plate Current	38	ma
Zero-Signal Grid-No.2 Current	9	ma
Max.-Signal Grid-No.2 Current	7.5	ma
Plate Resistance (Approx.)	60000	ohms
Transconductance	4200	μmhos
Load Resistance	5000	ohms
Total Harmonic Distortion	7	%
Max.-Signal Power Output	3	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	*Min.*	*Max.*	
Heater Current	1	0.19	0.23	amp
Transconductance	1,2	3100	5800	μmhos
Plate Current	1,2	26	45	ma
Grid-No.2 Current	1,2	-	6.5	ma
Reverse Grid-No.1 Current	1,3	-	-2	μa
Power Output	1,4	2.4	-	watts
Heater-Cathode Leakage Current:				
Heater negative with respect to cathode	1,5	-	50	μa
Heater positive with respect to cathode	1,5	-	50	μa
Leakage Resistance:				
Between grid No.1 and all other electrodes tied together	1,6	50	-	megohms
Between plate and all other electrodes tied together	1,7	50	-	megohms

Note 1: With ac or dc heater volts = 13.5.

Note 2: With dc plate volts = 200, grid-No.2 volts = 200, grid-No.1 volts = -10, and grid No.3 connected to cathode.

Note 3: With grid-No.1 resistor (megohms) = 0.1.

Note 4: With load resistor (ohms) = 5000, and rms signal volts = 7.1.

Note 5: With 100 volts dc between heater and cathode.

Note 6: With grid No.1 100 volts negative with respect to all other electrodes tied together.

Note 7: With plate 300 volts negative with respect to all other electrodes tied together.

SPECIAL RATINGS & PERFORMANCE DATA

Heater-Cycling Life Performance:

This test is performed on a sample lot of tubes from each production run. A minimum of 2000 cycles of intermittent





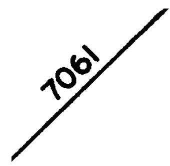
operation is applied under the following conditions: heater volts = 17 cycled one minute on and four minutes off, heater 135 volts negative with respect to cathode, and all other elements connected to ground. At the end of this test, tubes are checked for heater-cathode shorts and open circuits.

Low-Frequency Vibration Performance:

This test is performed on a sample lot of tubes from each production run under the following conditions: heater volts = 13.5, plate volts = 200, grid-No.2 volts = 200, grid-No.1 volts = -10, plate load resistor (ohms) = 2000, and vibrational acceleration of 2.5 g at 25 cps. In this test, the rms output voltage must not exceed 500 millivolts.

500-Hour Intermittent Life Performance:

This test is performed on a sample lot of tubes from each production run to insure high quality of the individual tube and to guard against epidemic failures. Life testing is conducted under the following conditions: heater volts = 15, and maximum-rated plate dissipation and grid-No.2 input.





7061

AVERAGE CHARACTERISTICS

E_f = 13.5 VOLTS
GRID-No.2 VOLTS = 200

GRID-No.1 (I_{C1}) AND GRID-No.2 (I_{C2}) MILLIAMPERES

GRID-No.1 VOLTS E_{C1} = 10

PLATE VOLTS

PLATE MILLIAMPERES

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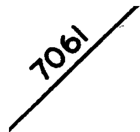
7061

7061

AVERAGE CHARACTERISTICS

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7061

OPERATION CHARACTERISTICS

E_f = 13.5 VOLTS
PLATE VOLTS = 200
GRID-№2 VOLTS = 200
GRID-№1 VOLTS = -10
SIGNAL VOLTS (RMS) = 7.1

POWER OUTPUT

TOTAL DISTORTION

POWER OUTPUT—WATTS

4
3.5
3
2.5
2
1.5
1
0.5

TOTAL HARMONIC DISTORTION—PER CENT

14
12
10
8
6
4
2
0

0 2000 4000 6000 8000 10000 12000

LOAD RESISTANCE—OHMS

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7061

AVERAGE CHARACTERISTICS
TRIODE CONNECTION

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92CM-9801

7061